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Indian Standard

DIMENSIONS FOR WROUGHT COPPER AND COPPER ALLOY RODS FOR FASTENERS

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DIMENSIONS FOR WROUGHT COPPER AND COPPER ALLOY RODS FOR FASTENERS

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Indian Standard

DIMENSIONS FOR WROUGHT COPPER AND COPPER ALLOY RODS FOR FASTENERS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 15 April 1969, after the draft finalized by the Copper and Copper Alloys Sectional Committee had been approved by the Structural and Metals Division Council.

0.2 This standard forms one of a series of Indian Standards on dimensions for wrought copper and copper alloys. Other standards in this series are:

IS : 2826-1964 Dimensions for wrought copper and copper alloy rods and bars
IS : 3051-1965 Dimensions for wrought copper and copper alloys plate
IS : 3052-1964 Dimensions for wrought copper and copper alloys, sheet, strip and foil

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies dimensions for copper and copper alloy rods for fasteners (both threaded and non-threaded).

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definition shall apply.

2.1 Rod — A slender solid product, of uniform, circular, square or polygonal cross-section, with transverse dimension up to and including 150 mm supplied in straight lengths and manufactured by rolling, forging or extrusion. Drawing may be a final finishing operation.

3. DIMENSIONS

3.1 Dimensions and tolerances for round, square and hexagonal rods shall be as given in Table 1.

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*Rules for rounding off numerical values (*revised*).

TABLE 1 DIMENSIONS OF ROUND, SQUARE AND HEXAGONAL RODS

(*Clause* 3.1)

Round Rod		Square Rod		Hexagonal Rod	
Diameter	Tolerance*	Side Width	Tolerance*	Width Across Flat	Tolerance*
(1)	(2)	(3)	(4)	(5)	(6)
mm	mm	mm	mm	mm	mm
6	−0·05	6	−0·08	5·5	−0·02
7	−0·05	8	−0·08	6	−0·02
8	−0·05	10	−0·08	7	−0·04
9	−0·05	11	−0·08	8	−0·04
10	−0·05	13	−0·10	9	−0·04
12	−0·05	17	−0·10	10	−0·04
14	−0·05	19	−0·10	11	−0·04
16	−0·05	22	−0·10	13	−0·05
18	−0·05	24	−0·10	17	−0·05
20	−0·05	27	−0·12	19	−0·05
22	−0·08	30	−0·12	22	−0·05
24	−0·08	32	−0·12	24	−0·05
27	−0·08	36	−0·15	27	−0·06
30	−0·08	41	−0·15	30	−0·08
33	−0·08	46	−0·34	32	−0·08
36	−0·08	50	−0·38	36	−0·08
39	−0·10	55	−0·42	41	−0·08
42	−0·10	60	−0·47	46	−0·08
45	−0·10	65	−0·47	50	−0·08
48	−0·10	70	−0·53	55	−0·12
50	−0·10	75	−0·53	60	−0·12
52	−0·10	80	−0·74	65	−0·12
56	−0·28			70	−0·53
60	−0·31			75	−0·53
64	−0·31			80	−0·53
68	−0·35			85	−0·87
72	−0·35			90	−0·87
76	−0·35			95	−0·87
80	−0·54			100	−0·87
85	−0·54			105	−0·87
90	−0·54			110	−0·87
95	−0·54			115	−0·87
100	−0·54			120	−0·87
105	−0·54			130	−1·00
110	−0·54			135	−1·00
115	−0·54			145	−1·00
120	−0·54			150	−1·00
125	−0·63				
130	−0·63				
140	−0·63				
145	−0·63				
150	−0·63				

*Plus tolerance shall be 0·00 mm.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	*Unit*	*Symbol*
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	*Unit*	*Symbol*
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	*Unit*	*Symbol*	*Conversion*
Force	newton	N	1 N = 1 kg.1 m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

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